

**St. Paul District
U. S. Army Corps of Engineers**

**DEPARTMENT OF THE ARMY RECORD OF DECISION AND PERMIT
EVALUATION FOR THE
MITTAL STEEL USA – MINORCA MINE, INC. EAST RESERVE PROJECT**

APPLICATION NUMBER: MVP-2005-110-JKA

APPLICANT: Mittal Steel USA-Minorca Mine, Inc.

PROJECT: East Reserve Project

1. Introduction. The U.S. Army Corps of Engineers (Corps) and the Minnesota Department of Natural Resources (MnDNR) prepared a joint federal/state Environmental Impact Statement (EIS) for the proposed East Reserve Project (Project) located near Nashwauk in Itasca County, Minnesota. The Draft EIS and the Final EIS were used to provide information to prepare this permit decision document, which constitutes the Record of Decision (ROD) for the work described in the public notice dated September 28, 2006. The public notice is hereby incorporated by reference. This ROD includes this document, the comments received on the Final EIS (Appendix A), the Section 404(b)(1) Evaluation (Appendix B), the Mittal Steel USA – Minorca Mine, Inc. (Mittal, formerly known as Ispat Inland Mining Company) wetland mitigation bank information (Appendix C), and the U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) (Appendix D). Section 10 of this ROD contains the comments and responses to the Final EIS that was made public on December 22, 2006.

My decision is to issue a permit with special conditions for the proposed work. The applicant, Mittal, has provided sufficient information to demonstrate a need for the proposed project, compliance with the applicable Federal laws, and that issuance of a permit is not contrary to the public interest. The Minnesota Pollution Control Agency (MnPCA) has waived Section 401 Water Quality Certification ((WQC)(33USC §1342)) for the Project. I have added special conditions to the permit to ensure compliance with the finding of my decision (see Paragraph 12(K) below).

2. Description of Work. Mittal proposes to construct and operate a new taconite mine consisting of two conventional open pits, in a deposit known as the East Reserve. The taconite ore would be hauled by truck to Mittal's currently permitted and operating Minorca taconite processing facility north of Virginia, Minnesota, where the ore would be processed into taconite pellets. Mine production from the East Reserve would gradually replace production from the Laurentian pit, which is located just over two miles southwest of the East Reserve. The new project footprint (two open pits, two stockpile areas, and new haul road) is shown in Figure 3-7 of the Draft EIS. The new project footprint area is the Clean Water Act Section 404 permit area. The project action area includes the new project footprint, the existing haul road, the existing Minorca taconite processing facility and the existing tailings basins.

The length of the haul road between the East Reserve open pits and the Minorca facility would be 7.28 miles. Tailing waste would be disposed of in Mittal's currently permitted and operating Minorca and Upland tailings basins about 2.5 miles northeast of the Minorca facility. There

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would be no increase in the footprint of the tailings basins. The taconite pellets would be shipped by rail on existing rail lines to Two Harbors, Minnesota for shipment to a steel mill via the Great Lakes. Mining of the East Reserve deposit would gradually replace mining at Mittal's nearby Laurentian Mine, which is nearing the end of its ore reserves. Therefore, while the mine and stockpile impact area footprint would increase with the opening of the East Reserve pits, the amount of taconite production and many of its associated impacts (such as blasting noise and vibrations, haul truck traffic, other vehicle traffic, etc.) would remain at or near the existing levels because the Laurentian mine would be closing. However, the location of those associated impacts would be moved about two miles northeast of the existing Laurentian mine.

Stripping, Overburden Removal, Mining, and Stockpiles – The East Reserve deposit would be mined by conventional open pit methods (including stripping, drilling, blasting, loading, and hauling) similar to those currently in use at other locations on the Iron Range. The combined area of the two proposed open pits would be approximately 476 acres. Approximately 119,000,000 tons of ore would be mined over the estimated 18-year life of the mine. The East Reserve mine pits would be mined down to a final elevation of 1,197 feet above mean sea level, approximately 280 feet below the existing surface elevation.

Overburden ranges from five to 60 feet in depth and would be stripped using 20-cubic- yard hydraulic excavators. The material would be loaded into 240-short-ton trucks and hauled to waste stockpiles on the north side of the proposed mine pits. Approximately 17,000,000 cubic yards of overburden material would be stripped.

Waste rock and lean taconite would be drilled and blasted on a bench system. The benches would be between 18 and 50 feet in height, with an average bench height of 35 feet. Blast holes would be drilled using a 16-inch diameter rotary bit and patterns would be drilled on a 35.4-foot by 40.8-foot grid. Each blast pattern would consist of an average of 80 to 100 holes yielding an average of 400,000 long tons of broken material. Each hole would be set off individually using non-electric delays to minimize ground vibration and air shock. The waste rock and lean taconite would be loaded into trucks and hauled to separate stockpile areas north of the pits. The total stockpile area would cover approximately 431 acres. Approximately 30,000,000 cubic yards of waste rock and lean taconite would be excavated.

Ore would also be drilled and blasted on a bench system. The benches would be between 18 and 50 feet in height, with an average bench height of 35 feet. Blast holes would be drilled using a 16-inch diameter rotary bit and patterns would be drilled on a 26-foot by 30-foot grid. Each blast pattern would consist of an average of 80 to 100 holes yielding an average of 220,000 long tons of broken ore. The ore would be loaded into 190- or 240-short-ton production trucks using 19-cubic yard loaders. The ore would be hauled to the Minorca taconite processing facility.

Haul Roads – The mine plans include the construction of three haul roads: 1) the main haul road would connect the East Reserve mine pits to the existing haul road currently used to transport ore from the Laurentian Mine to the Minorca taconite processing facility; 2) one would connect the two East Reserve pits; and 3) one would connect the Laurentian East Stockpile #1 to the main haul road. The newly constructed portion of the main haul road would

be 1.9 miles long and have a footprint of approximately 180 feet in width. The total length of the haul road from the East Reserve mine pits to the Minorca facility would be 7.28 miles. The driving surface of the haul road would be 150 feet wide. Rock berms would be constructed along both edges of the haul road, with the rock sloping down to the adjacent natural ground surface, which accounts for the remainder of the 180-foot wide haul road footprint. Table 1 (attached to this ROD) provides information regarding the types of vehicles that would use the haul road, the maximum speed of those vehicles, and the frequency of vehicle use on the haul road.

Mine Site Drainage – Water pumped from the proposed mine pits would be discharged into either of two adjacent abandoned open pit mines: the McKinley Pit or the Mary Ellen Pit. Overflow from the McKinley Pit would flow south to the Embarrass River via an unnamed stream (the Central Discharge Route). The Central Discharge Route currently carries periodic overflows from the McKinley Pit through an excavated channel and a large wetland to the point where the route joins the dewatering route for Mittal's currently operating Laurentian Pit. Overflow from the Mary Ellen Pit would flow south for approximately four miles through a series of wetlands and natural streams (the East Discharge Route), where it would join with the Central Discharge Route. It is presumed that the East Discharge Route carries periodic overflows from the Mary Ellen Pit; however, no defined stream channel could be found leading out of the pit.

Closure and Post Closure Actions – Areas disturbed by the development of the East Reserve would be reclaimed soon after they become inactive. Stockpiles and roadbeds would be capped with a minimum of two feet of burden material. Grading and sloping would be done just prior to seeding to minimize erosion. All areas would be shaped as required. Fertilization would be done immediately before seeding to expedite vegetation growth and to minimize erosion. Herbaceous plants would be seeded using a hydro-seeder. Seed mixes would be designed to achieve early stabilization and long-term cover. Re-vegetation would be done to meet the requirements of Minnesota Rules Chapter 6130.

3. Location. The mine and adjacent overburden, waste rock, and lean ore stockpiles would be in Sections 3, 4, 5, 8, and 9, T. 58 N., R. 16 W. The new haul road spur would be in Sections 7 and 8, T. 58 N. R. 16 W., and Section 12, T. 58 N., R. 17 W., St. Louis County, Minnesota.

4. Purpose of Work. The purpose of this project is to mine taconite ore from the East Reserve in order to extend the production life of the Minorca taconite pellet production facility beyond what would be provided by taconite ore currently provided from the Laurentian Mine. The taconite pellets are shipped via rail and ore boats on the Great Lakes to existing steel mills. The steel mills manufacture steel to help meet domestic and world steel demand.

5. The Relative Extent of Public and Private Need for the Proposed Work. Moving mining activities to the East Reserve would facilitate the wise use of natural resources. The remaining ore in the Laurentian Mine is of a quality too low for efficient use at the Minorca taconite processing facility. Blending higher quality ore from the East Reserve would allow for use and processing of low grade ore from the Laurentian Mine. Without a higher grade ore to mix to

improve the production efficiency, some low grade Laurentian ore would end up being left in the ground and the resource would go unused. The East Reserve would be used to continue taconite processing at the Minorca processing plant at the current rate. The effort to extend the production life of this facility would maintain and create various economic benefits, such as employment, and would contribute directly to domestic steel production.

6. Alternatives. A comprehensive discussion of project alternatives is provided in the East Reserve Project Draft EIS and Final EIS.

Three alternatives exist for the Corps: to issue the permit as proposed by Mittal, to issue the permit with special conditions, or to deny the permit. Each alternative is discussed below:

A. Permit Issuance. This is the alternative preferred by Mittal. The Corps and the MnDNR received four comment letters regarding the Final EIS, including a letter from the U.S. Environmental Protection Agency (USEPA). The USEPA requested additional information regarding five issues addressed in the Final EIS (see Paragraph 10(B) below). The Section 404(b)(1) Evaluation (Appendix B) concluded that Mittal clearly demonstrated there were no less environmentally damaging practicable alternatives available to achieve the project purpose. However, special conditions are necessary to comply with the 404(b)(1) Guidelines and for the proposed project not to be contrary to the general public interest (see Paragraph 12(K) below).

B. Permit issuance with Special Conditions. As stated above, special conditions are necessary for the proposed project. These are listed in Paragraph 12(K) below. With the inclusion of the special conditions, I find the alternative of permit issuance with special conditions is in compliance with the 404(b)(1) Guidelines and is not contrary to the general public interest.

C. Permit Denial. No requests to deny the permit were received from private citizens, organizations, business groups, or Native American tribes. The proposed work is considered not to be contrary to the general public interest.

7. Statutory Authorities and Administrative Determinations Applicable to Proposed Project.

A. National Environmental Policy Act (NEPA). The Corps was the Federal lead agency for the EIS process, which was conducted jointly with the MnDNR, the State lead agency. A Draft EIS, dated September 11, 2006, and a Final FEIS, dated December 18, 2006, were prepared pursuant to the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508). The Corps has prepared this ROD in conjunction with these documents. The Corps has determined these documents are reasonable and complete and are hereby incorporated by reference. Public concerns regarding the adequacy of these documents are addressed in responses to comments in the Final EIS and in Paragraph 10(A and B) below.

B. Clean Water Act – Section 404. A Clean Water Act (CWA) Section 404 permit is required for the discharge of dredged or fill material into waters of the United States, including

jurisdictional wetlands. The proposed project includes direct impacts to 93.91 acres of wetlands and indirect impacts to 28.97 acres of wetlands, for a total permanent wetland impact of 122.88 acres. Mittal has demonstrated the proposed project is the least environmentally damaging practicable alternative available to Mittal for achieving the project purpose. Mittal will conduct compensatory wetland mitigation to replace the functions and values for the unavoidable wetland impacts (see Paragraph 10(B)(1) below and Appendix C). Appendix B to this ROD contains the Section 404(b)(1) Evaluation.

C. Clean Air Act. The Clean Air Act (CAA) required the Environmental Protection Agency (EPA) to promulgate rules to ensure Federal actions conform to the appropriate State Implementation Plan (SIP). Conformity to a SIP is defined as meeting conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards.

The proposed East Reserve Mine would be located in an area where a number of mines already operate. The primary pollutant emitted during mining is fugitive dust, or particulate matter. Air quality for a given region is determined through ambient air monitoring. Measured ambient concentrations are compared to primary and secondary ambient air quality standards. Primary standards protect public health. Secondary standards protect public welfare. St. Louis County has met and continues to meet State and National Ambient Air Quality Standards (NAAQS) for particulate matter and the other criteria pollutants: nitrous oxides (NO_x), ozone, carbon monoxide (CO), and sulfur dioxide (SO₂).

Much of the emissions generated from the proposed project would be fugitive dust created by truck traffic along the unpaved haul road to the processing plant, wind erosion of exposed areas and stockpiles, material handling, and blasting. Since the East Reserve Mine would replace operations at the Laurentian Mine, the change in impacts from the emissions generated from the East Reserve would be primarily a change in location rather than in degree.

The predominant wind directions for this area are from the northwest and south-southeast. Moving the mining operation to the East Reserve site will relocate emissions further from McKinley and closer to Biwabik. The sensitive receptor closest to the East Reserve is a senior citizen center in Biwabik, approximately 1.1 miles east of the mine.

As shown in Table 4-10 of the Draft EIS, projected actual emissions from the East Reserve site for the years 2007 to 2011 are expected to *decrease* compared to current operations at the Laurentian Mine. This decrease is attributable to:

- A smaller overall stripping ratio – less overburden and waste rock tonnage to be hauled, and
- The new East Reserve mine will not be as deep as the Laurentian Mine, thus requiring fewer vehicle miles traveled for trucks hauling mine ore and waste.
- A proposed replacement of smaller haul trucks with larger ones will decrease the annual mileage for haul trucks for an equal amount of ore to the plant.

D. National Historic Preservation Act. The National Historic Preservation Act (NHPA) requires Federal agencies to consider the effect of its actions on historic properties. Requirements of Section 106 of the Act apply to any Federal undertaking, funding, license, or permit. The Corps is the Federal lead for the Section 106 consultation. Mittal contracted with Soils Consulting to conduct a Phase I archeological assessment of the East Reserve project site, and a Draft Phase I Archaeological Assessment report was included as Appendix B of the Final EIS. Mittal contracted with Landscape Research to conduct a historic mining landscape literature search for the East Reserve project. A memorandum of the findings was included as Appendix C of the Final EIS. Copies of the final reports for the Phase I archaeological assessment and the literature search for historic mining landscapes and the Corps determination that no historic properties would be affected by the East Reserve project were provided to the Minnesota State Historic Preservation Office, the Grand Portage Chippewa, the Fond du Lac Band of Lake Superior Chippewa, and the Red Lake Band of Chippewa Indians on January 12, 2007. No comments were received by the Corps in response to the final reports or the Corps determination. See Paragraphs 9(D) and 12(J) below for additional discussion.

E. Endangered Species Act. Section 7 of the Endangered Species Act (ESA) requires Federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of habitat of such species which has been designated as critical. Through informal and formal consultation procedures with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) (the Services), the Federal agency must evaluate information on the presence of listed species (including timing and life stages), habitat for such species and their prey sources, and other parameters. ESA species in the project area include bald eagles, gray wolf, and Canada lynx. As the Federal lead, the Corps prepared and submitted a Biological Assessment (BA) to the USFWS to request formal consultation for the gray wolf and the Canada lynx. A determination of “may affect, not likely to adversely affect” was made for the bald eagle. A determination of “may affect, likely to adversely affect” was made for the gray wolf and the Canada lynx. A biological opinion (BO) was received from the USFWS on February 21, 2007. Terms and conditions for the East Reserve project were required, and conservation recommendations were proposed by the USFWS. See Paragraph 9(I)(1) for more details regarding ESA determinations and coordination.

F. Water Quality Certification. Prior to the issuance of a Section 404 permit (33 USC §1344), the Minnesota Pollution Control Agency (MnPCA) must either issue a Section 401 WQC (33 USC §1341) stating that the Section 404 action will comply with the applicable provisions of 33 USC Sections 1311, 1312, 1316, and 1317, or waive the requirement. The MnPCA waived its Section 401 authority in a letter to the Corps dated February 21, 2007.

G. National Pollutant Discharge Elimination System Permit. Under Section 402 of the Clean Water Act, the EPA delegated authority to the MnPCA for the regulation of discharges of pollutants into the State's surface waters. The MnPCA issued NPDES/SDS General Stormwater Permit No. MNR100001 on August 1, 2003, with coverage authorization specific to Mittal (ID No. C00020939) effective on February 1, 2007. Individual NPDES/SDS Permit No.

MN0059633 for non-construction storm water and industrial wastewater (mine dewatering) activities was issued to Mittal on February 5, 2007.

8. Relevant Background of Corps Involvement. The Corps received a permit application from Mittal in December of 2004 to discharge fill material into wetlands to develop an open pit taconite mine in an ore deposit known as the East Reserve. The Corps (the lead federal agency) joined with the MnDNR (the lead state agency) to prepare a joint federal/state EIS for the proposed project. A memorandum of understanding to prepare an EIS for the proposed project was prepared and signed by the Corps, the MnDNR, and Mittal on February 13, 2006. A Notice of Intent to prepare a draft EIS was published in the Federal Register on February 9, 2006. The Corps, with assistance from the MnDNR, released to the public a draft scoping decision document and the MnDNR scoping environmental assessment worksheet on February 28, 2006. The Corps did not receive any comments during the 30-day public comment period regarding scoping. Following an analysis in accordance with 40 CFR §1506.5(c) and Corps policy, the Corps concurred that the MnDNR-selected EIS consultant (Short Elliot Hendrickson) was suitable for Federal purposes to prepare the EIS. The Draft EIS was prepared and released to the public on September 15, 2006 (date that the Notice of Availability was published in the Federal Register), and the public comment period closed on October 30, 2006. A public notice for the proposed project was issued on September 28, 2006, and direct wetland fill and excavation impacts were estimated to be 93.91 acres. In addition, indirect wetland impacts due to changes in hydrology were estimated at 28.97 acres. The Final EIS was prepared and released to the public on December 22, 2006 (date that the Notice of Availability was published in the Federal Register), and the public comment period closed on January 22, 2007. The Draft EIS, Final EIS, and the comments received on the Final EIS were used to prepare the Corps Record of Decision.

9. Impact Evaluation. The Corps has evaluated both the individual and cumulative impacts of the proposed work. The evaluation considered relevant factors including, but not limited to, conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, clean air, noise, land use, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people (see 33 CFR 320.4).

A. Effect on Wetlands (33 CFR 320.4(b)).

(1) Impacts. The proposed project would require dredging or discharging fill material into an estimated 93.91 acres of wetlands (direct impacts). The direct wetland impacts by acreage, wetland type, reason for impact, and major watershed are shown in Table 4-6 in the Draft EIS. In addition, the project would indirectly impact another 28.97 acres of wetlands as a result of changes to watershed areas and groundwater drawdown (see Table 4-7 in the Draft EIS).

Wetlands comprise nearly 10 percent of the habitat cover types on the site. The most common wetlands are shrub swamps (Type 6 wetlands) dominated by speckled alder (*Alnus rugosa*) and lesser amounts of willow species (*Salix spp.*). The next most common types of wetlands are shallow to deep marshes (Type 3, Type 4, or Type 5 wetlands).

(2) Mitigation. The permittee will provide compensatory wetland mitigation at a 1:1 ratio by debiting the final 103.6 acres of wetland mitigation bank credits that it owns in Aitkin County, Minnesota. In addition, the permittee is required to prepare and submit to the Corps a compensatory wetland mitigation plan to provide the additional needed compensation for the remaining 19.28 acres of wetland impact. After the mitigation plan is approved by the Corps, the permittee will be required to execute the plan. The plan will need to be submitted to the Corps by the end of year 6, or at least one year before the final 19.28 acres of wetland impacts would occur, whichever is sooner.

(3) Findings. The permittee will provide compensatory wetland mitigation to offset the wetland functions and values lost as a result of the East Reserve project. I have evaluated the proposed project and the proposed compensatory wetland mitigation and have determined they will result in the creation, restoration, and enhancement of wetlands in a rough proportionality to the project impact, considering both the nature of and the extent of the impact. The proposed plans are reasonable, and have been specifically designed for this project site to compensate for the loss of wetlands on this project site occurring due to construction of the proposed project. I have also determined that the completion of mitigation must be a special condition of the issued Department of the Army permit (see Paragraph 10(B)(1) below for additional discussion).

B. Fish and Wildlife (33 CFR 320.4(c)).

(1) Impacts. Impacts to fish are described in Chapter 4.9 of the Draft EIS. The discharge of water pumped from the mine pits will increase baseflow along the Central Discharge Route and the East Discharge Route. This impact would be greatest near the source and diminish quickly downstream. The increased baseflow may provide additional hydrologic stability and habitat for some species, but may have adverse impacts on others. Temporary impacts to wetlands adjacent to unnamed tributaries to the Pike River and the Embarrass River could occur during construction as a result of soil disturbance and movement. As a result, there could be increased sediment laden runoff and increased turbidity in the tributaries. Ultimately, the fish community would adjust to the conditions that are present. The Embarrass River would provide refuge and could serve as a source for fish repopulation after cessation of dewatering if the streams are adversely impacted.

Impacts to wildlife are described in Chapter 4.8 of the Draft EIS. The proposed project will impact just over 900 acres of existing wildlife habitat, although approximately 25 percent of that area has been previously impacted by mining activities. Existing forest, shrubland, grassland, and wetlands will be changed to an open pit mine, stockpile areas, and a haul road. Wildlife species that occur within the project area will be directly impacted and species in neighboring habitats will be indirectly affected. Habitat and wildlife impacts associated with the dewatering routes may include habitat loss or conversion, or aversion to an impacted area by certain wildlife species. Species that are typical to the project area could become locally extinct and will no longer have habitat. Despite this potential, wildlife species that are typical to the project area are regionally common and in some cases abundant making the potential for regional extinction of typical species as a result of this project unlikely.

(2) Mitigation. Best Management Practices (BMPs) would be used to minimize erosion. At the conclusion of mining, the areas disturbed by development of the East Reserve would be reclaimed. It is anticipated that desirable native wildlife habitats would be restored through the required reclamation planned for the East Reserve site after mining is completed (Minnesota Rules Chapter 6130). Restoration with desirable native vegetation would create habitats similar to those found in the surrounding area. It is anticipated that wildlife and fauna in general would recruit from surrounding native habitats and repopulate the reclaimed habitats. Reclamation would yield a net benefit for the project since the East Reserve site is not yet reclaimed from previous mining that pre-dates the requirements for reclamation.

(3) Findings. I have evaluated the proposed project, the compensatory wetland mitigation plan, and I understand that reclamation of the site would be required in accordance with Minnesota Rules Chapter 6130. The proposed compensatory wetland mitigation would replace the wetland functions and values lost as a result of the project. The proposed site reclamation plans are reasonable, and have been designed to compensate for the loss of wildlife habitat and impacts to fish habitat on this project site occurring due to construction of the Project. I have also determined that the completion of compensatory wetland mitigation must be included as a special condition of the issued Department of the Army permit (see Paragraph 12(K) below for details).

C. Water Quality (33 CFR 320.4(d)).

(1) Impacts. Water quality impacts are described in Chapter 4.2.1 of the Draft EIS. The East Reserve mining activities, as proposed, will not generate any sanitary or municipal wastewater discharges. The primary source of industrial wastewater associated with the mining and stockpiling activities will be mine pit dewatering activities during active mining. Stormwater discharges will also occur, however these will be mitigated by the implementation of stormwater BMPs.

The existing NPDES/SDS permit for the Laurentian Mine requires routine monitoring of various general water quality parameters. The TSS, pH, conductivity, and chloride levels in Laurentian Mine discharge water are comparable to those which occur in streams and water bodies in the area. Sulfate levels in the mine discharge are somewhat elevated from unimpacted background conditions but are not known to be causing environmental impacts in the receiving waters. The water quality of the discharge from the proposed East Reserve Mine is expected to be similar to that of the existing discharge from the Laurentian Mine. Therefore the water quality of downstream water bodies are not anticipated to be beneficially or detrimentally affected with regards to the proposed discharges from Mittal's operations for these parameters.

(2) Mitigation. Erosion and sediment control BMPs would be implemented at the site as defined in the General Construction Stormwater and Individual NPDES/SDS Permits and associated SWPPPs. Sedimentation to the receiving water bodies would be minimal as a result of implementing the required BMPs at the site. The particular BMPs to be used would be specified during final design but those most likely to be applied include:

- prompt re-vegetation of disturbed surfaces,
- interim erosion protection of disturbed areas that would be re-graded at a later date, including interim seeding and/or mulching,

- use of silt fences on short slopes during grading,
- provisions for berms and channels to intercept sheet flow and convey sediment to sediment basins, and
- energy dissipation devices installed at the same time as installation of culverts and steep ditch sections.

In addition, Mittal has several measures in place to prevent spills that could contribute to stormwater degradation:

- On-site refueling operations are performed only by mechanics with two mobile fueling trucks. These individuals are trained regarding spill prevention and are present during the entire refueling operation.
- Mittal is constructing a state of the art refueling station at the Minorca taconite processing facility to handle fueling on the plant site and to fill the mobile fueling trucks. This will minimize exposure to fuel spills at the mine site.
- Routine maintenance on the haul trucks is performed at the Minorca taconite processing facility. Excavators and loaders would continue to be maintained in the mine pit and malfunctioning equipment would be fixed but under controlled conditions and using general maintenance practices (i.e. all liquids are collected and properly managed).
- No bulk fuels or lubricants are stored in the mine pit or along the haul route.

(3) Findings. Responsibility for control of non-point sources of pollution has been delegated to the MnPCA in the State of Minnesota. The MnPCA has waived Section 401 certification for the Project as stated in a letter to the Corps dated February 21, 2007.

D. Historic, Cultural, Scenic, and Recreational Values (33 CFR 320.4(e)).

(1) Impacts. Mittal contracted with Soils Consulting to conduct a Phase I archeological assessment of the East Reserve project site, and a Draft Phase I Archaeological Assessment report was included as Appendix B of the Final EIS. Testing and observation of the most apparent locations for precontact archaeological properties was negative, and no additional locations requiring testing were observed. A pedestrian survey of the Historic Mining Landscape showed a complete absence of intact features. It was concluded that the Project area has no potential to contain important data that can be preserved or recovered by archaeological methods.

Mittal contracted with Landscape Research to conduct a historic mining landscape literature search for the East Reserve project. A memorandum of the findings was included as Appendix C of the Final EIS. The literature search found that there remains no significant remaining physical evidence of the community of Belgrade. With the absence of any historic mining-related structures at the adjacent Belgrade Mine and the general transformation of individual mines within the project area into a single water-filled pit surrounded by stockpiles of unknown date, there appear to be no features that would warrant further research focused on a potential NRHP-eligible historic mining landscape.

Copies of the final reports for the Phase I archaeological assessment and the literature search for historic mining landscapes and the Corps determination that no historic properties would be affected by the East Reserve project were provided to the Minnesota State Historic Preservation Office, the Grand Portage Chippewa, the Fond du Lac Band of Lake Superior Chippewa, and the Red Lake Band of Chippewa Indians on January 12, 2007. No comments were received by the Corps.

(2) Mitigation. No impacts will occur to historic or cultural sites. No mitigation is required.

(3) Findings. The necessary coordination under Section 106 has been completed, and no impacts will occur to historic or cultural sites.

E. Effects on Limits of the Territorial Sea (33 CFR 320.4(f)). Not applicable.

F. Consideration of property ownership (33 CFR 320.4(g)). The East Reserve project would be conducted on privately owned land, except for two parcels that are tax forfeit lands owned by the State of Minnesota. The two parcels are: the NE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 9, T. 58N., R. 16W. (40 acres); and the W $\frac{1}{2}$ of the NE $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 9, T. 58N., R. 16W. (20 acres). Those two parcels are landlocked by private land, and have no public access. Mittal is making arrangements with the State to purchase or lease those two parcels. There are no concerns with the proposed projects regarding protecting the property from erosion (incorporating BMPs will be required) or interference with authorized Federal projects.

(1) Findings. I have weighed the rights of Mittal to reasonable use of its property versus the rights of the public for environmental protection in making my decision. I have determined that the proposed project complies with the Section 404(b)(1) Guidelines, NEPA, and all other applicable environmental Federal laws and regulations and does not interfere with any other Federal projects.

G. Activities Affecting Coastal Zones (33 CFR 320.4(h)). Not applicable.

H. Activities in Marine Sanctuaries (33 CFR 320.4(i)). Not applicable.

I. Other Federal, State, or local Requirements (33 CFR 320.4(j)). In Paragraph 7 above, numerous Federal and State authorities were described including the status of their reviews. One authority in particular was applicable regarding this project and is discussed below.

(1) Endangered Species.

(a) Impact. The Corps is the lead Federal agency for compliance with Section 7 of the ESA. ESA species in the project area include bald eagles, gray wolf, and Canada lynx. The bald eagle may be affected, but is not likely to be adversely affected by the project. The gray wolf and the Canada lynx would be adversely affected by the loss of approximately 900 acres of forested habitat and by the construction and use of the new and existing haul roads. The project site is not within any designated critical habitat for the gray wolf or the Canada lynx.

(b) Consultation. As the Federal lead, the Corps prepared and submitted a Biological Assessment (BA) to the USFWS to request formal consultation for the gray wolf and the Canada lynx. A biological opinion (BO) was received from the USFWS on February 21, 2007 (see Appendix D of this ROD). The USFWS concurred with the Corps determination of “may affect, not likely to adversely affect” for the bald eagle. The USFWS believes that no more than one gray wolf and one Canada lynx will be incidentally taken once every twelve and sixteen years, respectively as a result of the proposed action. One reasonable and prudent measure with two associated terms and conditions were required, and five conservation recommendations were proposed by the USFWS. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action.

(c) Findings. The necessary coordination under Section 7 of the ESA has been completed. To ensure the conservation measures discussed in the BO are implemented, I have added the five special conditions to the permit (see special conditions c through e in Paragraph 12(K) below.

J. Safety of Impoundment Structures (33 CFR 320.4(k)). Not applicable.

K. Floodplain Management (33 CFR 320.4(l)). Not applicable.

L. Water Supply and Conservation (33 CFR 320.4(m)). Production of taconite ore from the East Reserve will replace current taconite ore production from Mittal’s Laurentian pit, which is nearing the end of its ore reserves. Taconite ore processing will continue at the Minorca processing facility. Water use by Mittal will not change substantially when the East Reserve project begins, and it will not substantially increase the demand on the local water supply system. Regarding mine pit dewatering, the current water appropriations permit for the Laurentian pit dewatering activity allows 6,000 gpm to be pumped from that pit. Mittal will need to stay within this 6,000 gpm limit for dewatering the East Reserve pits.

Modifications will be required to the City of Biwabik's raw water intake as the water level decreases in the Canton pit (the source of the City of Biwabik’s water supply). The water level in the Canton pit will decrease as a result of pumping to dewater Mittal’s East Pit #2 to enable mining. Section 4.6.1.2.1 of the Draft EIS discusses these changes in detail. Below an elevation of 1,355 feet, more substantial changes to the intake will be required. Change in water quality as the water level in the pit decreases was discussed in Section 4.6.1.2.1 of the Draft EIS. In the past, the existing water treatment plant effectively treated water from the Canton pit at an elevation of 1,355. Therefore, it is assumed that the plant will be able to treat water from the pit at least until it reaches the 1,355 elevation. If water quality changes as the water level drops below the 1,355-foot elevation, a change in the treatment process may be required. Such changes may include switching the type of chemicals used or a new type of pretreatment or filtration system. However, an increase in filter capacity would not be required. Increasing the filter capacity would increase the quantity of water the treatment plant can effectively treat, but it would not address changes in water quality. As stated in Section 4.6.1.2.1 of the Draft EIS, a detailed contingency plan is important to ensure an uninterrupted water supply of equal quality

and quantity to the City's current supply. The Contingency Plan will establish a monitoring schedule for water elevation and quality that will be used to determine changes in the water supply and will establish either water levels and/or quality characteristics that would prompt specific mitigation actions for the raw water intake or treatment process. Mittal is developing a contingency plan with the City of Biwabik for inclusion into the MNDNR Water Appropriation Permit. The contingency plan is being prepared for the East Reserve Project to mitigate negative impacts to the City's water supply from dewatering.

M. Energy Conservation and Development (33 CFR 320.4(n)). This review evaluates the use of electricity, natural gas, diesel fuel, and gasoline for the East Reserve project. Production of taconite ore from the East Reserve will replace current taconite ore production from Mittal's Laurentian pit, which is nearing the end of its ore reserves. Taconite ore processing will continue at the Minorca processing facility. Electricity and natural gas consumption should remain stable at the current usage rate. The use of gasoline and diesel fuel will increase approximately 3.56 percent when East Pit #1 opens because that pit will be approximately 1,200 feet (3.56 percent) farther from the Minorca plant than the Laurentian pit. When East Pit #2 opens, gasoline and diesel fuel consumption will increase approximately 22.67 percent above current usage because that pit will be approximately 7,400 feet farther from the Minorca plant than the Laurentian pit.

N. Navigation (33 CFR 320.4(o)). Not applicable.

O. Environmental Benefits (33 CFR 320.4(p)). This review evaluates the components of the proposed project designed specifically for the purpose of benefiting the environment. Mittal has not included any project components for this purpose. However, as discussed in Chapter 2.4 of the Draft EIS, Mittal has proposed mitigation in areas such as:

- Fish, wildlife and ecologically sensitive resources – the haul road was aligned to maximize utilization of previously disturbed areas, avoid wetlands to the extent practicable, and utilize the existing crossing of the Pike River; stockpiles were designed to utilize previously disturbed areas to the extent practicable and to avoid wetlands.
- Wetlands – the stockpile design was modified from the original design in order to avoid and minimize wetland impacts to the extent practicable, the haul road was designed to avoid wetland impacts to the extent practicable, and compensatory wetland mitigation will be conducted to replace functions and values of the unavoidable wetland impacts.
- Water quality – BMPs for erosion and sediment control will be utilized during all phases of the project as required by the NPDES/SDS permits, and blasting agent (ANFO) will be delivered to the site as needed instead of utilizing onsite storage (to minimize the amount of nitrates in the groundwater).
- Erosion and sedimentation – In addition to the use of BMPs, direct runoff from the pits would be directed to sumps to detain water and trap sediment to reduce turbidity and suspended solids before the accumulated water is pumped out of the mine pit.
- Blasting noise and vibrations – blasting would occur every one or two weeks and must not exceed air shock and ground movement standards established in Minnesota Rules 6130.3900, which have been designed to keep blasting effects well below the thresholds

that could cause structural damage or health effects. Blastholes would be detonated sequentially through the use of delays instead of simultaneous detonation of all blastholes in order to reduce blast noise and vibrations.

All of these mitigation activities will reduce project impacts to the environment.

P. Economics (33 CFR 320.4(q)). For the purposes of the Corps public interest review, “it will generally be assumed that appropriate economic evaluations have been completed [by the applicant], the proposal is economically viable, and is needed in the market place. However, the district engineer in appropriate cases, may make an independent review of the need for the project from the perspective of the overall public interest” (33 CFR 320.4(q)).

(1) Impacts. Development of the East Reserve would continue the socioeconomic benefits associated with operation of the Minorca taconite processing facility. The East Reserve would provide enough ore for the Minorca plant to operate until approximately 2024. Tax revenues would continue to provide benefits to the state and to the region. Because opening the East Reserve will essentially replace mining operations at the Laurentian Mine, there will be no new or additional jobs or changes in wages or in the purchase of material goods.

(2) Mitigation. None proposed.

(3) Findings. The project will provide economic benefits to the state and to the region until approximately 2024.

Q. Mitigation (33 CFR 320.4(r)). This review examines efforts to avoid, minimize, rectify, reduce, or compensate for the resource losses caused by the proposed project. The potential impacts of the proposed project and Mittal’s proposed mitigation efforts are discussed throughout Paragraph 9 of the ROD, and Appendix B. In summary, Mittal is proposing mitigation for the impacts to: fish, wildlife and ecologically sensitive resources; wetlands; water quality; erosion and sedimentation; and blasting noise and vibrations.

(1) Findings. Mittal’s proposed mitigation adequately avoids, minimizes, rectifies, reduces, and/or compensates for the proposed impacts. Special conditions have been added to the permit to ensure the mitigation efforts within the Corps’ jurisdiction are implemented as designed (see Paragraph 12(K) below).

R. Safety. The Mine Safety and Health Administration (MSHA) is responsible for administering the provisions of the Federal Mine Safety and Health Act of 1977 (Mine Act) to enforce compliance with mandatory safety and health standards as a means to eliminate fatal accidents; to reduce the frequency and severity of nonfatal accidents; to minimize health hazards; and to promote improved safety and health conditions in the Nation's mines. As such, MSHA will continue to inspect and monitor Mittal’s taconite mining and processing operations. No safety issues were raised during the public comment periods on the Draft EIS or the Final EIS. However, USEPA did raise a health issue regarding the possibility that the East Reserve taconite ore could contain asbestos or asbestos related fibers (see Paragraph 10(B)(4) below).

(1) Findings. Based upon the information provided by Mittal and by MSHA, it is not likely that the taconite ore in the East Reserve contains asbestos or asbestos related fibers. However, MSHA will monitor the East Reserve project to determine if asbestos and asbestos related fiber exposure limits are exceeded. If the limits would be exceeded, MSHA would require Mittal to implement control measures. See section 10(B)(4) below for additional information.

S. Noise. Noise is generated as a result of blasting and heavy equipment engine noise. Because mining operations will be moved from, not in addition to, existing operations at the Laurentian pit, no net increase in noise as a result of mining operations is anticipated. The change in impacts will be primarily a change in location rather than in degree.

(1) Impacts. As directed by the EIS scoping process, treatment of noise in the Laurentian EIS was reviewed to consider the applicability to the East Reserve mine. The Laurentian study reported that the background noise at the nearest residential area (northern area of Gilbert) and along old TH 135 was found to be representative of a rural environment and within the MPCA standard. The closest noise-sensitive structure to the Laurentian pit was identified as a residence north of new TH 135 and west of old TH 135. This residence was within approximately 1,300 feet of the mining operations and within approximately 1,600 feet of the waste stockpile area. The results of the Laurentian EIS showed that potential impacts to the closest residence from noise from mining and stockpile operations were not significant.

Mining operations would initially be ongoing at both the Laurentian pit and East Reserve Pit #1. This would include moving half of the mining equipment and operations from the Laurentian Mine to East Reserve Pit #1. Therefore, the change in noise effects impacts would include a reduction in noise generated at the Laurentian pit and an increase in noise generated at the East Reserve site. After mining operations at the Laurentian pit cease, all mining equipment would be moved to the East Reserve site. By this time, mining would begin in East Reserve Pit #2.

The nearest sensitive receptors in the area of the East Reserve are the residences in Biwabik and McKinley. Residences in the City of McKinley are closest to East Reserve Pit #1. The closest residential receptor to East Reserve Pit #1 is approximately 3,900 feet away in the southwest area of the City of McKinley, along 3rd St. North. Residences in the City of Biwabik are closest to East Reserve Pit #2. The closest residential receptor to East Reserve Pit #2 is approximately 5,000 feet away in the City of Biwabik.

The sensitive receptors associated with the East Reserve are at greater distance away from the proposed mining activities than those at the Laurentian pit. Therefore, it is assumed that the potential for noise effects on those residences are less than those evaluated for the Laurentian EIS. Further, because the noise effects from the Laurentian mining activities were determined to be insignificant, it is assumed that potential noise effects from activities at the East Reserve would be similarly insignificant.

(2) Mitigation. Although no state daytime noise guidelines are expected to be violated due to mining operations, Mittal proposes to provide for additional noise mitigation via the following key strategies. Blasts on average would occur every one or two weeks and would not exceed air shock and ground movement standards established in DNR and MPCA rules. These standards

have been designed to keep blasting effects well below the thresholds that could cause structural damage or health effects. Blasting is scheduled to take advantage of weather conditions that further serve to reduce adverse effects. Monitoring both before and during blasting would insure that the applicable standards are not exceeded.

Mining equipment noise would be blocked in a variety of ways. The new haul road spur is several miles from human habitation. Mining noises from the open pit will largely be blocked by the pit walls as pit depth increases. The shallowest mining during initial development will be on the far side of the mine pits with respect to residences in McKinley and Biwabik. Initial development stockpiling will be at least one mile from McKinley. The stockpiles will be graded so that equipment noises will occur on the opposite side of the stockpile slope from McKinley and Biwabik to provide some noise attenuation.

(3) Findings. Because mining operations will be moved from, not in addition to, existing operations at the Laurentian pit, no net increase in noise as a result of mining operations is anticipated. Since the nearest noise receptors (residences) to the East Reserve site are farther away than the nearest receptors to the Laurentian pit, and the noise level effects on the nearest Laurentian pit receptors is insignificant, then it is assumed that the noise level effects on the nearest receptors to the East Reserve site will also be insignificant.

T. Air Quality. Much of the emissions generated from the proposed project would be fugitive dust created by truck traffic along the unpaved haul road to the processing plant, wind erosion of exposed areas and stockpiles, material handling, and blasting. Since mining at the East Reserve site would replace mining at the Laurentian pit, the change in impacts from the emissions generated from the East Reserve would be primarily a change in location rather than in degree.

(1) Impacts. The predominant wind directions for this area are from the northwest and south-southeast. Moving the mining operation to the East Reserve site will relocate emissions further from McKinley and closer to Biwabik. The sensitive receptor closest to the East Reserve is a senior citizen center in Biwabik, approximately 1.1 miles east of the mine.

As shown in **Table 4-10** in the Draft EIS, projected actual emissions from the East Reserve site for the years 2007 to 2011 are expected to *decrease* compared to current operations at the Laurentian pit. This decrease is attributable to:

- A smaller overall stripping ratio – less overburden and waste rock tonnage to be hauled, and
- The new East Reserve mine will not be as deep as the Laurentian Mine, thus requiring fewer vehicle miles traveled for trucks hauling mine ore and waste.
- A proposed replacement of smaller haul trucks with larger ones will decrease the annual mileage for haul trucks for an equal amount of ore to the plant.

A new 1.9-mile haul road spur would be added to the existing haul road to connect the East Reserve to the processing plant. Emissions generated by truck traffic along the new road spur would be offset by the decreases described above. Therefore, the overall impact would be a decrease in emissions.

(2) Mitigation. Dust control measures currently in place at the Laurentian Mine (as specified in Mittal's Dust Control Plan, summarized in **Table 3-13** in the Draft EIS) would continue at the East Reserve site (including the new haul road) to limit emissions of particulate matter.

Further, blasting operations would be delayed if there was an atmospheric inversion (air temperature cooler near the surface and warmer aloft) or winds from the east or northeast greater than 15 miles per hour.

Emissions generated by construction, such as stockpile wind erosion and grading would be short term and controlled according to the Dust Control Plan.

(3) Findings. Since mining at the East Reserve site would replace mining at the Laurentian pit, the change in impacts from the emissions generated from the East Reserve would be primarily a change in location rather than in degree. Since the projected actual emissions from the East Reserve site for the years 2007 to 2011 are expected to *decrease* compared to current operations at the Laurentian pit, and since St. Louis County has met and continues to meet National Ambient Air Quality Standards (NAAQS), it is expected the East Reserve project would not cause St. Louis County to exceed the NAAQS.

U. Cumulative Impacts. Cumulative impacts analyses are presented in the Draft EIS for wetlands and for wildlife habitat loss/fragmentation. Other actions with potential for cumulative effect are identified in Chapter 2.6; cumulative effects to wetlands are discussed in Chapter 4.2.3.2 and Appendix M; and cumulative impacts to wildlife habitat loss/fragmentation are discussed in Chapter 4.8 based upon an Emmons and Olivier Resources Inc. study dated May 2006. The analyses address the historic landscape conditions; the changes that have occurred as a result of past and present actions; how the proposed project, with the proposed mitigation, would impact the existing conditions; and additional impacts from reasonably foreseeable future actions.

(1) Summary of Analyses.

(a) Wildlife. Effects on habitat loss, habitat fragmentation, and wildlife motility (movement) and travel corridor obstruction could potentially occur. The Mesabi Iron Range formation was assumed to be a travel corridor barrier due to all of the past and present mining activity. Undeveloped areas crossing over or transversely arranged across the formation were defined as gateways or travel corridors for movement through or over the formation. Larger areas of undeveloped habitat surrounding the formation with natural vegetative cover were defined as Roadless Blocks (of land) in accordance with parameters set by The Nature Conservancy. Aerial imagery and other Geographic Information System (GIS) data and maps were used as a supplement to further define habitats and corridors. A GAP land cover analysis was performed to define the land cover and ultimately the habitat blocks and travel corridors.

The study determined and mapped 13 travel corridors transecting across the approximately 100 mile long Mesabi Iron Range formation. Each travel corridor was evaluated for potential future actions. Travel Corridor #8 shown on page 15 of the study report encompasses the East Reserve site and the immediate surrounding area. Corridor #8 is qualitatively ranked as "likely very important" as a travel corridor connecting a large habitat block to the north to smaller blocks of habitat on the south side of the East Reserve site. The East Reserve site is identified as a future

impact that will cause “direct loss” of this habitat corridor, resulting in the possible diminishment of habitat quality to the north side habitat block through the formation of a formidable barrier to wildlife movement. Indirect habitat losses or changes could result because a corridor of genetic interchange, population sink-source movement, and habitat continuity will be obstructed.

(b) Wetlands. The cumulative effects on wetlands in the project area were studied and the results published in the Cumulative Wetland Effect Analysis report included in Appendix M of the Draft EIS. Several primary wetland functions are directly related to watershed processes so the cumulative analysis was performed on a watershed basis. The project site is located primarily in the Embarrass River subwatershed of the St. Louis River Watershed. The proposed haul road route lies within the Pike River subwatershed of the Vermilion River Watershed.

There are 38,946 acres of wetlands and 668 acres of deepwater habitat predicted to be present in the foreseeable future in the Embarrass River subwatershed, comprising 33.8 and 0.6 percent of the land area, respectively. This represents a decrease of 134 acres of wetland and an increase of 275 acres of deepwater habitats compared to existing conditions. This represents a 0.1 percent decrease in wetlands from existing conditions and a 1.4 percent decrease in wetlands from pre-settlement conditions. The abandoned mine pits result in a 0.3 percent increase in deepwater habitats over existing conditions and a 0.6 percent increase over pre-settlement conditions.

Changes in wetland acreage will be caused primarily by the projected impacts to 122.88 acres of wetland for the Project. In addition, there are projected to be 22 acres of wetland impacts for transportation projects. Upon completion of the East Reserve project, there will be an additional 275 acres of deepwater habitat established when the mine pits refill with water, a net increase deepwater habitat area in the Embarrass River subwatershed. However, deepwater habitat cannot be equated with wetland habitat because they provide different functions and values.

There are 8,790 acres of wetlands predicted to be present in the foreseeable future in the Pike River subwatershed, comprising 36.1 percent of the land area. This is a decrease of less than 0.1 percent from existing conditions and an increase of 0.2 percent from pre-settlement conditions. The East Reserve project proposes to impact about 7 acres of wetlands in the subwatershed. The MnDOT identified a potential bridge crossing that will impact less than one acre of wetland. The St. Louis County Public Works Department did not identify any future impacts in the subwatershed and there are no known agricultural or municipal projects for the foreseeable future in the subwatershed.

(2) Mitigation. Separation of the mining area into two pits and separating the stockpile areas to maintain the existing drainageway to the Belgrade Sink serves to minimize the impact on the wildlife travel corridor. The area between the stockpiles complements the topography immediately north of the site to maintain a defined travel corridor and facilitates wildlife movement.

Wetland mitigation is discussed in Chapter 4.2.3.2.4 of the Draft EIS. Mittal will provide compensatory wetland mitigation at a 1:1 ratio by debiting the final 103.6 acres of wetland mitigation bank credits that it owns in Aitkin County, Minnesota. In addition, Mittal is required

to prepare and submit to the Corps a compensatory wetland mitigation plan to provide the additional needed compensation for the remaining 19.28 acres of wetland impact. After the mitigation plan is approved by the Corps, Mittal will be required to execute the plan. The plan will need to be submitted to the Corps by the end of year 6, or at least one year before the final 19.28 acres of wetland impacts would occur, whichever is sooner.

(3) Conclusions. Past and present iron mining activities on the Mesabi Iron Range in Itasca and St. Louis Counties have resulted in the creation of a series of physical barriers (open pits, stockpiles, and tailings basins) in a linear pattern from near Grand Rapids to near Babbitt. Thirteen relatively unimpacted wildlife corridors have been identified that provide habitat for the movement of large mammals across the Range. The Project would impact travel corridor #8. Maintaining the drainageway between East Pit #1 (and its associated stockpile) and East Pit #2 (and its associated stockpile) will provide a narrow corridor for large mammal movement. In addition, large mammals will likely use the area west of the pits as a corridor, but will need to cross the haul road. Reclamation of the site after the completion of the project will restore more of corridor #8 for use as a wildlife corridor.

The Embarrass River subwatershed has had substantial past development and iron mining activity that has resulted in an overall loss of wetlands. When considering the reasonably foreseeable future actions (including the East Reserve project) additional wetland losses of 134 acres are expected. That would be a 0.1 percent decrease in wetland area compared to the existing condition, and a 1.4 percent decrease in wetland area compared to pre-settlement conditions.

The Pike River subwatershed has had very limited past wetland impacts. When considering the reasonably foreseeable future actions (including the East Reserve project) additional wetland losses of 8 acres are predicted. That would be a decrease of less than 0.1 percent from existing conditions and an increase of 0.2 percent from pre-settlement conditions.

Compensatory wetland mitigation provided by Mittal through the use of 103.6 acres of bank credits in Aitkin County would not provide mitigation in the Embarrass River subwatershed or the Pike River subwatershed. Those mitigation bank credits were established by Mittal in 1995 for the Laurentian pit project and for additional wetland impacts resulting from future Mittal mine projects. Those bank credits were accepted by the Corps at that time as northern Minnesota wetland credits suitable for mitigation of wetland impacts resulting from Mittal's future mine projects. However, Mittal will be required to first seek compensatory wetland mitigation for the remaining 19.28 acres of wetland impacts in the Embarrass River subwatershed and then in the St. Louis River watershed in order for the mitigation to be considered for a 1:1 mitigation ratio by the Corps.

10. Coordination. Coordination for this proposed project was performed in accordance with the procedures specified in 33 CFR, Parts 320-330 (Corps Permit Regulations). As described in Paragraph 8 above, as part of this coordination, a public notice for the project was issued on September 28, 2006, concurrent with the public comment period on the Draft EIS. Responses to

all of the comments on the public notice and the Draft EIS that were received by the Corps and the MnDNR during the public comment period were provided in the Final EIS.

This section addresses the comments received on the Final EIS and up until the permit decision was made. A total of four comment letters were received by the Corps and the MnDNR regarding the Final EIS; three letters were from private citizens and one letter was from the USEPA. Copies of the letters are included in Appendix A.

A. Public Comment Letters.

(1) Support for project. Two of the comment letters supported the proposed East Reserve project.

Applicant's Response. Comments noted.

District Engineer's Response. Comments noted.

(2) Access to land along the Pike River. To utilize the full extent of the ore reserve in East Pit #2, relocation of County Road 715 northwest of Biwabik would be required. An owner of property along the Pike River between McKinley and Biwabik expressed concern regarding access to the property.

Applicant's Response. The need for road realignment is not certain at this time, but it may be necessary. Relocation of County Road 715 would be the responsibility of St. Louis County, and coordination with the City of Biwabik would be required because part of the road is currently within the city limits. Road relocation would not be expected for 10 to 15 years after the start of the project, and the need for relocation would be recognized approximately two years before the road would be impacted.

District Engineer's Response. Section 4.6.2 (Transportation) of the Draft EIS details the sequence of activities that would go into the potential realignment of County Road 715. The chapter explains that road realignment is not certain at this time and would be the responsibility of St. Louis County, if required. Access to County Road 715 is also available from the north via U.S. Highway 169 and County Road 21 northeast of Virginia.

(3) Property Value. An owner of property along the Pike River between McKinley and Biwabik expressed concern regarding property value.

Applicant's Response. Comment noted.

District Engineer's Response. The closest distance between the Pike River and the East Reserve pit/stockpile area would be approximately 4,000 feet; there would be no direct impact to the Pike River from the footprint of the project; and road access to the Pike River area would remain. In addition, the area between McKinley and Biwabik has a long history of iron mining, with numerous abandoned open pits, stockpiles, and tailings impoundments in the area. Mittal's

Laurentian pit is currently operating between Gilbert and McKinley, and the associated stockpiles are about the same distance from the Pike River. The proposed East Reserve project would not be out of context with past and present uses of the immediate area.

B. USEPA Comment Letter.

(1) Wetland Mitigation. It was requested that the mitigation plan be included in the ROD.

Applicant's Response. Mittal provided information regarding the wetland credits that it owns in Aitkin County (see Appendix C of this ROD).

District Engineer's Response. Mittal owns 103.6 acres of wetland credits in a Corps-approved wetland mitigation bank in Aitkin County. A special permit condition (see Paragraph 12(K) below) requires Mittal to use all of those bank credits as mitigation for 103.6 acres of wetland impacts resulting from the East Reserve project. Information regarding the Aitkin County mitigation bank are provided in Appendix C of this ROD. In addition, Mittal is required to provide additional compensatory wetland mitigation for the remaining 19.28 acres of wetland impact. A special permit condition (see Paragraph 12(K) below) requires Mittal to prepare a detailed compensatory wetland mitigation plan for the 19.28 acres by the end of year 6 of the project, or at least one year before the final 19.28 acres of wetland impacts would occur, whichever is sooner.

(2) Public Availability of ROD. A recommendation was made to make the ROD available to the Public.

Applicant's Response. None required.

District Engineer's Response. The Corps will issue a Public Notice regarding the availability of the ROD, and the ROD will be made available to the public on the St. Paul District Regulatory website.

(3) Water Quality. Since the 5-year compliance schedule for the NPDES permit coincides with the life of the permit, USEPA recommended that Mittal and the State consider shortening the compliance schedule to 2 or 3 years. USEPA also requested a copy of the NPDES permit. Since the proposed mine is located within the Lake Superior Basin, the ROD should address how the East Reserve project will affect or be incorporated into the overall goal of zero discharge of mercury by 2020.

Applicant's Response. None required.

District Engineer's Response. The five-year compliance schedule for mercury in the proposed permit was established in accordance with Minnesota Pollution Control Agency (MPCA) permitting guidance for facilities in the Lake Superior basin in the absence of a finalized total maximum daily load (TMDL), with the guidance being developed in consultation with USEPA Region V water quality standards staff. The five-year timeline is considered reasonable to

accomplish the sequenced tasks required by the proposed permit which include the evaluation of mercury removal technologies, the pilot testing of an applicable technology, and ultimately, if technically feasible, the design and construction of the approved wastewater treatment system. Condensing the compliance schedule to two or three years would not provide a sufficient timeframe to properly conduct the required tasks.

A copy of the draft NPDES permit is being forwarded to the USEPA (Mr. George Azevedo) at the specified address.

The Lake Superior Binational Program (LSBP) is a non-regulatory program that set forth a "goal" of zero discharge (i.e., "virtual elimination") of mercury to the Lake Superior basin by the year 2020. It is a voluntary program that establishes "goals", but has no regulatory authority. In addition, by incorporating the term "virtual elimination" the LSBP recognizes that "it may not be possible to achieve total elimination from the Great Lakes System for some persistent toxic substances produced by natural processes...". This is the case for mercury for the Mittal project. The permit being proposed for the Mittal project is a National Pollution Discharge Elimination System (NPDES) permit which is part of a regulatory program authorized by the Clean Water Act. The effluent limitation for mercury included in the proposed permit complies with requirements of the Great Lakes Initiative (GLI) which is a regulatory program and in particular with the "Final Water Quality Guidance for the Great Lakes System, Final Rule" published in the Federal Register on March 23, 1995.

(4) Asbestos and Related Fibers. In the absence of analytical data to the contrary, USEPA remains concerned that asbestos and related fibers may be present in the East Reserve ore. USEPA requested that a suitable testing protocol for asbestos and related fibers during mining activities be included in the ROD. In addition, USEPA suggested that the Mine Safety and Health Administration (MSHA) be contacted to ensure that the required exposure assessments for asbestos are completed prior to the commencement of facility operations.

Applicant's Response. Mittal provided the Corps with copies of drill core logs from 101 holes drilled in the East Reserve along with a statement from Mr. Steve Mekkes, a Mittal mine engineer, that no asbestos or asbestos form minerals were encountered in any of the core holes from the East Reserve site. Mittal also provided a copy of its Final Supplemental EIS (January 2000) for in-pit tailings disposal into the depleted Minorca mine pit. Section 2.2.3 of that document states the following information: "Fiber-containing minerals are formed as a result of contact metamorphism, a complex geologic process. On the eastern end of the iron range, as magma moved toward the surface, it caused high temperatures and pressures, altering the mineralogy and creating fiber-bearing minerals. This did not occur in the central and western portions of the range." The East Reserve site is far enough west on the Mesabi Iron Range that asbestos and related fibers are not present in the ore.

District Engineer's Response. The Corps contacted Mr. William H. Pomroy, Staff Assistant with the MSHA North Central District in Duluth, Minnesota. Mr. Pomroy provided the following information:

- Every two to three years MSHA tests every taconite operation in Minnesota for asbestos and asbestos related fibers. MSHA collects the samples for analysis.
- MSHA uses the National Institute for Occupational Safety and Health (NIOSH) test procedures 7400 and 7402 to determine the presence or absence of asbestos and asbestos related fibers in samples collected from the operations.
- The test results are posted on the MSHA website.
- If exposure limits are exceeded for asbestos or asbestos related fibers at an operation, MSHA requires the operator to implement control measures.
- Based upon its testing, MSHA has not found asbestos or asbestos related fibers as far west on the Mesabi Iron Range as the proposed East Reserve site.
- MSHA has been testing Mittal's current taconite operation (Laurentian pit and Minorca processing plant), and has not found the limits for asbestos and asbestos related fibers to be exceeded.
- MSHA does not test taconite operations before they begin to operate.

Based upon the information provided by Mittal and by MSHA, it is not likely that the taconite ore in the East Reserve contains asbestos or asbestos related fibers. However, MSHA will monitor the East Reserve project to determine if asbestos and asbestos related fiber exposure limits are exceeded. If the limits would be exceeded, MSHA would require Mittal to implement control measures.

(5) Tribal Rights. USEPA requested more information regarding the relationship of mining activities with potential impacts to tribal resources for hunting, fishing, and gathering under the 1854 Treaty.

Applicant's Response. Mittal provided a land ownership map (surface ownership and mineral ownership) of the East Reserve site.

District Engineer's Response. The 1854 Treaty provides signatory Native American tribes the right to hunt, fish, and gather on public lands within the ceded territory specified in the treaty. The East Reserve project site is within the ceded territory of the 1854 Treaty. The surface ownership of the footprint area of the East Reserve project is privately owned except for two parcels; the NE ¼ of the NW ¼ of Section 9, T. 58 N., R. 16 W. (40 acres), and the W ½ of the NE ¼ of the NE ¼ of Section 9, T. 58 N., R. 16 W. (20 acres), which are tax forfeit lands owned by the State of Minnesota. There are no State of Minnesota public waters within the footprint of the East Reserve project. Therefore, the only public lands within the Project footprint that may be open to Native American tribes for hunting, fishing, and gathering are the 40 acre and 20 acre parcels defined above. Mittal is proposing to purchase or lease the two parcels from the State. The removal of these parcels from public ownership has not been shown to be a significant loss for tribal hunting, fishing, and gathering rights. There is a significant acreage of public lands (including National and State forests) available for hunting, fishing, and gathering in St. Louis County.

(6) Alternatives Analysis. The USEPA requested additional information regarding mining alternatives to substantiate why open pit mining was selected as the most reasonable option. In

addition, USEPA requested that Mittal's commitments to minimize the overburden stockpile and to place the material in areas that already experienced adverse impacts be included in the ROD and the Clean Water Act (CWA) Section 404 permit decision.

Applicant's Response. Mittal provided the following statement regarding the feasibility of using underground mining methods for the East Reserve project:

"As far as considering underground mining as an alternative, taconite has never been mined underground. Unlike high grade hematite which occurs in veins, magnetite (taconite) is ingrained in the silica laden rock which occurs in large sheet-like layers covered with waste rock and overburden. Open pit mining with very large production equipment is the only option to economically mine this low grade iron bearing material."

District Engineer's Response. Based upon the information provided by Mittal, the Corps concurs that underground mining is not a practicable alternative for mining the East Reserve taconite ore deposit. In addition, alternative mining technologies such as solution mining or in situ leach mining are also not practicable alternatives for this deposit. No alternative open pit mining technologies exist that would provide the same combination of economic efficiency and minimized environmental effects. Therefore, the open pit mining alternative proposed by Mittal is the only practicable mining technology alternative for the East Reserve project.

The proposed footprint for the stockpiles has been developed to avoid and minimize wetland impacts to the extent practicable, and to utilize previously impacted areas (old stockpile areas) to the extent practicable. The use of in-pit stockpiling could reduce the size of the footprint necessary for the stockpiles and could allow for backfilled portions of the mine pit to be reclaimed as shallow water habitats for aquatic resources and potential mitigation for other project wetland impacts.

In-pit stockpiling consists of stockpiling waste rock and overburden in a previously mined pit or portion of a pit. The Draft EIS includes evaluation of the environmental impacts of stockpiling waste rock and surface overburden in the mined-out pit. Minnesota Rules Chapter 6130 encourages and may require the use of in-pit stockpiling. It is the intended goal of Mittal to use in-pit stockpiling for approximately five million cubic yards of waste and use traditional stockpile disposal for the other 42 million cubic yards. In-pit stockpiling requires MnDNR approval and consideration of mineral rights and would be proposed and evaluated in the annual mine plans associated with the Permit to Mine. The impacts and benefits of in-pit stockpiling are evaluated in **Chapter 4** of the Draft EIS in the assessment of wetland impacts and mitigation.

11. Section 404(b)(1) Evaluation. The proposed work was evaluated pursuant to Section 404(b)(1) of the Clean Water Act in accordance with the Guidelines promulgated by the USEPA (40 CFR part 230) for evaluation of the discharge of dredged or fill material into waters of the United States. In addition, consideration has been given to the need for the work and to such water quality standards as are appropriate and applicable by law. This evaluation is presented in Appendix B of this ROD.

My evaluation concludes the proposed discharge is in compliance with the Section 404(b)(1) Guidelines because Mittal has shown the proposal represents the least environmentally damaging practicable alternative meeting the project purpose and includes all appropriate and practicable measures to minimize adverse effects on the aquatic environment. The work will not result in the unacceptable degradation of the aquatic environment.

12. Determinations. I have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning this Department of the Army permit application, as well as the stated views of other interested Federal and non-Federal agencies, Native American Tribes, and the concerned public, relative to the proposed work in waters of the United States.

I have made the following determinations:

A. National Environmental Policy Act (NEPA). The proposed project complies with the requirements of the NEPA. The project was evaluated through a joint federal/state Draft EIS and a joint federal/state Final EIS with the Corps as the lead federal agency and the MnDNR as the lead state agency. The Corps prepared this ROD for the Project.

B. Clean Water Act – Section 404. The discharges and methods specified in the proposed work, with the inclusion of special conditions, are in accordance with the Section 404(b)(1) Guidelines (see Appendix B of this ROD).

C. Clean Air Act. Mittal has an Air Emission Part 70 Operating Permit (No. 13700062-001) for the existing mining and taconite processing facility operations. That permit includes crushing, material handling, pellet screening, and fugitive sources (haul roads, wind erosion, drop operations). Moving the mining operation to the East Reserve site and replacing small haul trucks with larger trucks will result in a net decrease in emissions over the next five years. Therefore, according to Minnesota Rule 7007.1450, Subp. 2, the MnPCA has determined that this project qualifies as a minor amendment to the existing air permit (Permit No. 13700062-001). A permit application for this minor amendment was submitted to the MnPCA in April 2006. MnPCA issued the permit amendment on February 12, 2007.

D. National Historic Preservation Act. The proposed project is in compliance with the NHPA. No historic properties would be affected by the project.

E. Endangered Species Act. A BO was received for the Project from the USFWS on February 21, 2007. The Corps has completed the necessary coordination under Section 7 of the ESA. To ensure the conservation measures discussed in BO are implemented, I have added special conditions to the permit (see Paragraph 12(K) below).

F. Water Quality Certification. The MnPCA waived Section 401 water quality certification for the East Reserve Project in a letter to the Corps dated February 21, 2007.

G. National Pollutant Discharge Elimination System Permit. The MnPCA issued NPDES permits for the East Reserve project on February 1, 2007 and February 5, 2007 (see Paragraph 7(G) above).

H. Public Interest. Based on the analysis found in Paragraph 9 above, the work will have no significant adverse effect on these public interest factors. The proposed work is considered to be not contrary to the general public interest.

I. Federal Agency Recommendations. The USEPA comment letter on the Draft EIS rated it as "Environmental Objections-insufficient Information (EO-2)." The USEPA comment letter on the Final EIS stated that it did not fully address the USEPA issues regarding the Draft EIS. The USEPA requested that those issues (wetland mitigation, water quality, asbestos and related fibers, cumulative impact analysis, tribal rights, and alternatives analysis) be further addressed in the ROD. Those issues have been addressed in section 10(B) above.

The USFWS provided a BO (see Appendix D of this ROD) for the East Reserve project on February 21, 2007. The BO contained one reasonable and prudent measure and two associated required permit conditions. In addition, five conservation recommendations were also provided in the BO. The USFWS required permit conditions have been included as special conditions for the East Reserve project (see Paragraph 12(K) below).

J. Native American Tribes. The Fond du Lac Band of Lake Superior Chippewa and the Red Lake Band of Chippewa Indians requested to consult with the Corps regarding the East Reserve project. The Corps met with Native American tribes interested in three proposed mine projects in northeast Minnesota on June 8, 2006, in Duluth, Minnesota. A follow-up meeting with interested tribes was conducted on November 22, 2006, also in Duluth. At the follow-up meeting, the tribes indicated that the project of greatest concern was the proposed PolyMet project, and almost no time was devoted to discussion of the East Reserve project. Hardcopies of the Draft EIS and the Final EIS were provided to all seven of the northern Minnesota Native American tribes (Mille Lacs Band, Leech Lake Band, Nett Lake (Bois Forte), Grand Portage Band, Red Lake Band, White Earth, and Fond du Lac Band). The Fond du Lac Band of Lake Superior Chippewa provided a comment letter regarding the Draft EIS for the East Reserve project. The letter discussed ten issues of concern to the tribe. Responses to the comments were provided in the Final EIS. No comments were received from the tribes regarding the Final EIS. The USEPA provided a comment on the Final EIS regarding tribal rights to hunt, fish, and gather under the 1854 Treaty. The Corps response to that comment is provided in section 10(B) above.

K. Special Conditions.

- a. As compensation for the first 103.6 acres of authorized direct and/or indirect wetland impacts (drained, filled, and/or excavated wetlands) for the East Reserve project, the permittee shall debit the final 103.6 acres that it owns from the wetland bank in Section 23, T. 48N., R. 27W., Aitkin County, Minnesota. Documentation of the debits from the bank shall be provided to the Corps within 30 days of the date that they are debited.

- b. As compensation for the remaining 19.28 acres of authorized direct and/or indirect wetland impacts (drained, filled, and/or excavated wetlands) for the East Reserve project, the permittee shall: prepare a detailed compensatory wetland mitigation plan (Mitigation Plan); submit the Mitigation Plan to the Corps for review and approval within six years of the date of the Section 404 permit for the East Reserve project or at least one year before the final 19.28 acres of authorized wetland impacts occur, whichever occurs first; and conduct the Corps-approved Mitigation Plan to replace the lost functions and values for impacts to the final 19.28 acres of wetland impacts. The Mitigation Plan shall provide for a site(s) within Bank Service Area 1 as defined in Figure 2 of the Draft "St. Paul District Compensatory Mitigation Policy for Minnesota" dated April 2005, to be considered "in place." Mitigation within the Embarrass River watershed shall be proposed, if practicable. The Mitigation Plan shall provide for the restoration/creation of shrub swamp (Type 6 wetland) for the mitigation to be considered "in kind." At a minimum, the Mitigation Plan shall include the following:
- Site specific, detailed wetland restoration/creation designs.
 - Baseline condition of site(s), including a map(s).
 - Goals and objectives for the site.
 - Management plan, including the control of invasive and/or exotic species.
 - Monitoring plan.
 - Site protection.
 - Implementation schedule for construction and monitoring.
- c. The permittee shall continue to conduct the wetland hydrology monitoring program that began in 2006 as defined in the Wetland Hydrology Study Plan dated April 21, 2006. The wetland hydrology monitoring program shall continue throughout the life of the East Reserve Section 404 permit, unless the Corps determines that a modification to the monitoring program should be made. Figure 1 of the Wetland Hydrology Study Plan shows the locations of the fifteen shallow monitoring wells. Well numbers 2, 3, and 4, which will be physically impacted by the East Stockpile #1, do not need to be monitored after the time that they are physically impacted. Wetland hydrology monitoring shall also continue in the wells at the two reference wetlands that were agreed upon in June 2006. The wells shall be monitored once per week during the growing season. Those wells with electronic data loggers shall take readings every four hours throughout the monitoring period. If adverse indirect wetland impacts greater than the estimated 28.97 acres occur as a result of the East Reserve project (as determined by the wetland hydrologic monitoring), the Corps may require compensatory wetland mitigation for the additional acres of indirect wetland impacts.
- d. The permittee shall compile, graph, and analyze the collected wetland well data, prepare a report, and submit the report to the Corps by December 31 of each year during the life of the Section 404 permit.
- e. The permittee shall install an adequate size and number of culverts where haul road construction crosses wetlands and/or streams.
- f. The permittee shall not exceed an average of 600 vehicle trips/day (e.g., 300 round-trips per day for all vehicle types) on the haul road between the Minorca taconite processing

plant and the East Reserve mine area during any calendar year. Once per year, the permittee shall provide the Corps with a report containing haul road traffic volume data. At a minimum, the vehicle traffic on the haul road shall be monitored for a one-week (seven-consecutive-day) time period during a time of normal project operations. That data shall be included in the annual traffic report. Based upon this volume of traffic on the haul road (average of 600 vehicle trips/day), the U.S. Fish and Wildlife Service (USFWS) believes that no more than one gray wolf and one Canada lynx will be incidentally taken once every twelve and sixteen years, respectively, as a result of the proposed action. If during the course of the East Reserve project, this level of incidental take is exceeded; such incidental take would represent new information requiring reinitiation of consultation between the Corps and the USFWS and review of the reasonable and prudent measures required by the USFWS. Based upon that consultation, the Corps may be required to modify the Section 404 permit for the East Reserve project to add special conditions.

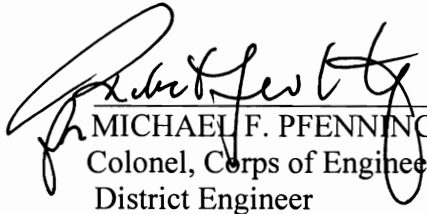
- g. The permittee shall promptly (within 24 hours) remove any deer or moose killed by vehicles from the footprint of the haul road between the East Reserve mine pits and the Minorca taconite processing facility to limit the likelihood of lynx or wolves feeding on carrion on or near the road.
- h. The permittee shall report within 72 hours any vehicle collisions with gray wolves or Canada lynx to the USFWS, Twin Cities Field Office, Bloomington, Minnesota (612-725-3548). These reports shall include all known information regarding the incident, including the species involved, date of incident, fate of the animal (e.g. dead), location of the carcass, geographic coordinates of the accident location, sex of the animal, and approximate age (i.e., adult, juvenile, yearling).
- i. To ensure that any incident will be reported, each employee who will drive on the haul road shall be provided information to allow them to identify Canada lynx and gray wolf. This information shall be retained in all vehicles that will be driven on the haul road. The permittee shall coordinate with the Service within 30 days of the date of the Section 404 permit for the East Reserve project regarding the information to be provided. The permittee shall provide documentation to the Corps (within 60 days from the date of the Section 404 permit for the East Reserve project) that coordination with the USFWS has been conducted, including a copy of the information that will be retained in the vehicles used on the haul road. The permittee is also encouraged to report to the Service (612-725-3548) any sightings of Canada lynx that are made during operation of the East Reserve project.
- j. The permittee shall review and consider implementation of the Conservation Recommendations numbers 1, 2, 4, and 5 provided by the USFWS in the Biological Opinion for the East Reserve project (see attached copy of the Biological Opinion). The permittee shall provide documentation to the Corps within 60 days of the date of the Section 404 permit stating which of those Conservation Recommendations will be implemented and which will not. For those Conservation Recommendations that will not be implemented, the permittee shall also provide a rationale as to why they will not be implemented. Regarding Conservation Recommendation number 3 (reclamation plans), the Corps understands that reclamation of the site will be done in accordance with Minnesota Rules 6130 and in the spirit of the Laurentian Vision. If the reclamation plans

would restore all or portions of the site to wildlife habitat, the permittee shall coordinate with the USFWS to identify opportunities to provide high-quality lynx habitat. The permittee shall provide documentation to the Corps within 30 days of the completion of such USFWS coordination to summarize the outcome of the coordination.

- k. The permittee shall submit to the Corps copies of its Permit to Mine Annual Report and its annual Operating Plan, as submitted to the Minnesota Department of Natural Resources.

13. Findings. The work complies with State and local laws and is consonant with National policy, statutes, and administrative directives. I find issuance of a Department of the Army permit for this work is based upon a thorough analysis of the various evaluation factors and determinations that have been identified herein. The proposed work is not contrary to the public interest. I have determined that a Department of the Army permit with special conditions will be issued for the proposed work.

Mon 5, 2007
Date


MICHAEL F. PFENNING
Colonel, Corps of Engineers
District Engineer

Application for a Minor Permit Amendment for
Moving Mining Operations to the East Reserve Mine

ATTACHMENT E

LB/Hr NET CHANGE CALCULATIONS FOR FORM CH-10

lb/hr PTE Long Ton				
Maximum Loads / Hour	Ore Haul	Strip/Waste Haul		
Tons product per truck	6 Each	3 Each		
Tons product per truck	240	240		
Tons product per truck	240	240		
Tons product per truck	240	240		
Tons product per truck	180			
Tons product per truck	180			
Total Tons Product Per Hour	1340	960		
Miles Travelled / Hour				
Ore Haul Truck				
Maximum ore haul mile / hour	35			
Maximum ore haul loads per hour	6			
Maximum ore haul truck miles in 1 hour		210		
Strip / Waste Haul Truck				
Maximum strip/waste haul mile / hour	35			
Maximum strip/waste haul loads per hour	4			
Maximum strip/waste haul truck miles in 1 hour		140		
Small Vehicle - Pit Trucks				
Maximum miles per hour pit trucks	24			
Maximum number of trucks	3			
Maximum small vehicle - pit trucks mile in 1 hour		72		
Small Vehicle - Other Trucks				
Round trip miles pit to plant from (2011 data)	14.56			
Maximum number of trucks	4			
Total mile for 4 trucks @ 1 trip each	58.24			
Trips per truck per shift	4			
Total miles per 8 hour shift	232.96			
Hours per shift	8			
Maximum small vehicle - other trucks mile in 1 hour		29.12		
Total Small Vehicles Trucks miles in 1 hour		101.12		

TABLE 1 (Mittal Steel USA East Reserve Project ROD)